

Effectiveness Analysis of an Integrated Chinese and Western Medicine Nursing Pathway for Dementia Patients

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Abstract

Objective: To evaluate the effect of integrated traditional Chinese and Western medicine nursing pathway on patients with dementia through a randomized controlled trial. **Methods:** Ninety patients meeting the inclusion criteria were selected and randomly divided into an experimental group (receiving integrated traditional Chinese and Western medicine nursing) and a control group (receiving conventional nursing). MMSE, PSQI, ADL, and MNA were measured at baseline, the fourth week of intervention, and the fourth week after discharge for inter-group comparison. **Results:** MMSE: The experimental group showed significant improvement at the fourth week of intervention and the fourth week of follow-up ($P < 0.05$), and was significantly better than the control group ($P < 0.05$). PSQI: The experimental group showed significant decrease at the fourth week of intervention and the fourth week of follow-up ($P < 0.05$), the control group also decreased at the fourth week of intervention ($P < 0.05$), and the experimental group was significantly better ($P < 0.05$). ADL: There was no significant difference between the two groups ($P > 0.05$). MNA: There was no significant difference between the two groups at the fourth week of intervention ($P > 0.05$), while the experimental group showed significant improvement at the fourth week of follow-up ($P < 0.05$). **Conclusion:** The integrated traditional Chinese and Western medicine nursing pathway demonstrates significantly better intervention effects on patients with dementia compared with conventional nursing.

Full Text

Analysis of the Clinical Application Effect of Integrative Chinese and Western Medicine Nursing Pathway on Dementia Patients

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Abstract

Objective: To evaluate the effect of an integrative Chinese and Western medicine nursing pathway on dementia patients through a randomized controlled trial.

Methods: Ninety patients meeting inclusion criteria were randomly divided into an experimental group (receiving integrative Chinese and Western medicine nursing) and a control group (receiving routine nursing). The Mini-Mental State Examination (MMSE), Pittsburgh Sleep Quality Index (PSQI), Activities of Daily Living (ADL), and Mini Nutritional Assessment (MNA) were measured at baseline, the fourth week of intervention, and the fourth week post-discharge for between-group comparisons.

Results: (1) MMSE: The experimental group showed significant improvement at the fourth week of intervention and follow-up ($P < 0.05$), significantly outperforming the control group ($P < 0.05$). (2) PSQI: The experimental group demonstrated significant reduction at the fourth week of intervention and follow-up ($P < 0.05$), while the control group also showed reduction at the fourth week of intervention ($P < 0.05$), with the experimental group performing significantly better ($P < 0.05$). (3) ADL: No significant difference was observed between the two groups ($P > 0.05$). (4) MNA: No significant difference existed between groups at the fourth week of intervention ($P > 0.05$), but the experimental group showed significant improvement at the fourth week of follow-up ($P < 0.05$).

Conclusion: The integrative Chinese and Western medicine nursing pathway demonstrates significantly better intervention effects on dementia patients compared with conventional nursing.

Keywords: Dementia; Alzheimer's disease; Cognitive impairment; Nursing pathway; Integrative Chinese and Western medicine

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Dementia, also known as Alzheimer's Disease (AD), is a neurodegenerative

disorder characterized by progressive loss of cognitive and behavioral abilities, closely associated with pathological factors including β -amyloid ($A\beta$) deposition, abnormal tau protein phosphorylation, and neuronal damage [1]. Epidemiological surveys indicate that the prevalence of dementia is approximately 3.21% among individuals over 65 years old, rising to 20.50% among those over 85 [2]. As cognitive function continues to deteriorate, patients gradually lose their ability to live independently, eventually requiring complete care from others, imposing a heavy burden on both society and families [3].

The pathogenesis of dementia is highly complex. Current clinical pharmacological treatments and other interventions cannot cure the disease; most act by regulating certain neurotransmitters in the brain to primarily alleviate symptoms, resulting in limited therapeutic efficacy [4]. Foreign studies have proposed light therapy [5] and music therapy [6], which demonstrate some effectiveness in improving sleep and cognition in dementia patients. However, these approaches suffer from unclear therapeutic dosing and limited applicability across populations, making them difficult to implement on a large scale in clinical treatment and nursing practice.

Traditional Chinese medicine (TCM) nursing constitutes an important component of Chinese medicine and plays an increasingly significant role in clinical practice [7]. The clinical efficacy of relevant TCM nursing techniques for dementia patients has been validated. For instance, Han Lepeng [8] employed a treatment method focusing on neck seven-needle therapy, with results demonstrating significant improvement in patients' cognitive function and quality of life. Lu Ping [9] combined oral Chinese herbal medicine with foot bath therapy in their study, achieving favorable outcomes in improving patients' cognitive function. Additionally, research [10] indicates that TCM nursing interventions for dementia offer advantages including definitive efficacy, simple operation, non-invasiveness, and good compliance, serving as an excellent complement to modern clinical nursing.

Although TCM nursing techniques have been widely applied in dementia patient care, clinical nursing for these patients predominantly consists of Western medicine symptomatic care. TCM nursing techniques have not yet been integrated with Western symptomatic nursing to form standardized nursing pathways. This study aims to combine clinically recognized TCM nursing techniques with conventional nursing methods to establish an integrative Chinese and Western medicine nursing pathway for dementia, thereby improving diagnostic and treatment quality and delaying disease progression. Therefore, this study investigates and validates this integrative nursing pathway to improve clinical outcomes and leverage the distinctive advantages of Chinese medicine in dementia prevention and treatment.

1.1 Sample Size Calculation

This study employed the following formula for sample size calculation [11]:

$$N = \frac{(u_{1-\alpha/2} + u_{1-\beta})^2 \cdot \sigma^2 \cdot [1 + (n-1)\rho]}{n \cdot (\mu_1 - \mu_2)^2}$$

In this formula, N represents the number of cases per group; $u_{1-\alpha/2}$ and $u_{1-\beta}$ denote the percentiles corresponding to $1 - \alpha/2$ and $1 - \beta$ in the standard normal distribution; n represents the number of repeated measurements; ρ is the intraclass correlation coefficient reflecting the correlation between multiple measurements; $\mu_1 - \mu_2$ indicates the expected difference between the two groups; and σ represents the pooled standard deviation. Based on pilot study results, with cognitive status, sleep quality, daily living ability, and nutritional status as primary outcome indicators, the pooled standard deviation was calculated as 1.0 according to pilot standard deviations, and the correlation coefficient between the two groups was 0.6. Setting the test level α at 0.05 and power $1 - \beta$ at 0.9, the estimated minimum sample size was 40 cases per group. Considering a 10% attrition rate, the final sample size was determined to be 45 cases per group.

1.2 General Information

A randomized controlled study design was adopted to select 90 patients admitted to the Geriatric Psychiatry Department of Affiliated Brain Hospital of Guangzhou Medical University between September 2021 and November 2022 who met inclusion and exclusion criteria. SPSS 25.0 software was used to generate a random number table to assign enrolled patients into two groups of 45 cases each. Allocation concealment was implemented using sealed, opaque envelopes, with outcome assessors and data analysts blinded to group assignment. The research team consisted of one deputy chief nurse, four responsible nurses, and one research nurse. The first author, in collaboration with the deputy chief nurse and research nurse, designed the integrative nursing pathway, while responsible nurses conducted the entire intervention process, including operation, guidance, and education. Consistency training was conducted before study implementation. This study was approved by the Ethics Committee of Affiliated Brain Hospital of Guangzhou Medical University (Ethics Approval No.: 20210823).

1.3 Inclusion Criteria

1. Diagnosed with dementia according to the “Internal Medicine of Traditional Chinese Medicine” (14th Five-Year Plan textbook for higher education, edited by Wu Mianhua and Shi Yan, China Press of Traditional Chinese Medicine, 2021);
2. Met ICD-10 (International Classification of Diseases, 10th Revision) diagnostic criteria for Alzheimer’s disease (F00.0–F00.2);
3. MMSE score ≥ 25 points and age >60 years;
4. Patients with independent decision-making capacity or immediate family members provided informed consent.

1.4 Exclusion Criteria

1. Senile schizophrenia;

2. Patients with severe physical diseases.

1.5 Dropout Criteria

Failure to complete the intervention according to the pathway.

1.6 Termination Criteria

Occurrence of serious adverse events or complications.

2.1 Control Group

During the enrollment period, treatment followed relevant diagnostic and treatment guidelines. The control group received conventional dementia nursing, including basic care, medication management, dietary care, sleep care, and rehabilitation nursing. Basic care involved supervising and assisting patients with personal hygiene and maintaining a quiet, comfortable indoor environment to stabilize patients' emotions. Medication management included setting medication reminders, confirming patients had taken medication before leaving, and implementing health education on drug knowledge. Dietary care emphasized high-protein, high-vitamin intake with reduced sugar and starch, while monitoring eating safety to prevent choking and aspiration. Sleep care ensured adequate daily sleep and regular daily routines. Rehabilitation nursing arranged appropriate outdoor activities to avoid prolonged sitting and immobility.

2.2 Experimental Group

Based on conventional nursing, the experimental group implemented TCM characteristic nursing techniques according to the "Integrative Chinese and Western Medicine Nursing Pathway for Dementia," including pattern-based dietary therapy, qi-intersection moxibustion, ear acupoint seed embedding, foot moxibustion, emotional regulation, and five-element music therapy.

2.2.1 Dietary Care

1. **Pattern-based dietary therapy:** For marrow sea insufficiency pattern, select qi and blood tonifying foods such as jujube and longan; for liver-kidney deficiency pattern, select liver-kidney nourishing foods such as black sesame and pine nuts; for phlegm-stasis obstructing orifices pattern, select phlegm-transforming and collateral-unblocking foods such as hawthorn and lily; for liver yang hyperactivity pattern, select yin-nourishing and moistening foods such as cucumber and celery.
2. **Qi-intersection moxibustion:** Select Shenque (CV8) acupoint, using raw tung oil as medium for indirect pottery moxibustion, every other day (qod), 20 minutes per session.

2.2.2 Sleep Care

1. **Ear acupoint seed embedding:** Select acupoints on one ear: Heart, Spleen, Kidney, and Shenmen, replacing the other ear every three days. Massage ear acupoints twice daily (bid), five minutes each time.

2. **Foot moxibustion:** Select foot reflex zones for head and kidney, plus Yongquan (KI1) and Insomnia acupoints, once daily (qd), 20 minutes per session. Foot moxibustion utilized the department's utility model patent: foot moxibustion box [12] (Patent No. ZL202120093202.0).

2.2.3 Rehabilitation Nursing

1. **(Seated) Baduanjin:** Assist patients in practicing Baduanjin once daily, selecting either standing or seated version according to their mobility capacity.
2. **Emotional regulation:** Based on patients' psychological status, apply borrowing-emotion therapy, shifting-emotion therapy, and suggestion therapy.
3. **Five-element music therapy:** Assess patients' emotions and select music corresponding to the five tones (Gong, Shang, Jue, Zhi, Yu) for different emotional states (thinking, worry, anger, joy, fear), once daily (qd), 30 minutes per session.

Additionally, based on conventional nursing procedures, the experimental group completed corresponding TCM plans, evaluation of clinical efficacy of TCM characteristic nursing interventions, and home care guidance at different treatment stages (Day 1, Days 2-3, Days 4-7, Days 8-14, Days 15-21, and discharge day) according to the "Integrative Chinese and Western Medicine Nursing Pathway for Dementia."

3.1 Observation Indicators

To reduce subjective bias, this study implemented separation among interventionists, evaluators, and statisticians. Both interventionists and evaluators underwent unified training before the trial to familiarize themselves with their respective responsibilities, ensuring standardized and homogeneous operations and data collection. Two trained evaluators assessed MMSE, PSQI, ADL, and MNA for both groups at baseline, the fourth week post-intervention, and the fourth week of follow-up after discharge. Evaluators were clear about assessment principles, precautions, and used uniform instructions. Paper questionnaires were used for baseline and fourth-week post-intervention assessments; online video connection was employed for the fourth-week follow-up assessment, with families instructed during discharge on how to cooperate with evaluators for remote assessment. During video connection, the research side had one efficacy evaluator, while the patient side included the patient and one family member.

3.1.1 Mini-Mental State Examination (MMSE) Scoring

The Mini-Mental State Examination (MMSE) is a standardized test commonly used to assess cognitive function [13]. This test detects cognitive functions including memory, attention, mathematical ability, orientation, language, and visuospatial skills. Based on total MMSE score (maximum 30 points), individuals are classified into four levels: Level 1 normal: score ≥ 27 ; Level 2 mild dementia: score 21-26; Level 3 moderate dementia: score 10-20; Level 4 severe

dementia: score <9. Research confirms that the Chinese version of MMSE has excellent reliability and validity [14].

3.1.2 Pittsburgh Sleep Quality Index (PSQI) Scoring

The Pittsburgh Sleep Quality Index (PSQI) is a standardized tool for assessing sleep quality [15]. PSQI comprises 19 items summarized into seven components evaluating different aspects of sleep quality: (1) subjective sleep quality, (2) sleep latency, (3) sleep duration, (4) sleep efficiency, (5) sleep disturbances, (6) use of sleep medication, and (7) daytime dysfunction. Total scores range from 0 to 21, with higher scores indicating poorer sleep quality. A PSQI total score >5 is considered indicative of sleep problems or disorders.

3.1.3 Activities of Daily Living (ADL) Scoring

The Activities of Daily Living (ADL) scale is a commonly used tool for assessing an individual's ability to independently perform daily living activities, including basic self-care skills such as hygiene, eating, dressing, and mobility [16]. ADL assessment typically includes six main domains: (1) bathing: evaluating ability to bathe independently; (2) dressing: assessing ability to put on and remove clothing; (3) toileting: evaluating need for assistance with toilet use and hygiene; (4) eating: assessing ability to feed independently including utensil use; (5) transferring: evaluating ability to walk, sit, and stand at home; (6) cooking: assessing ability to independently complete cooking and food preparation tasks. ADL evaluation typically uses a grading scale describing self-care ability: completely independent, partially independent, or completely dependent.

3.1.4 Mini Nutritional Assessment (MNA) Scoring

The Mini Nutritional Assessment (MNA) is a convenient tool for evaluating nutritional status in elderly and adult patients, primarily designed to detect and intervene in nutritional problems to improve health and quality of life [17]. MNA typically includes: (1) anthropometric data: age, gender, living situation; (2) Body Mass Index (BMI) calculated from height and weight; (3) mid-arm circumference for muscle mass assessment; (4) weight loss evaluation over the past three months; (5) dietary assessment: appetite, swallowing function, and eating independence; (6) cognitive evaluation; (7) emotional status including depression and anxiety; (8) physical muscle condition examining muscle mass loss in palm and patellar regions. Based on total MNA score (maximum 30 points), individuals are classified into three levels: Level 1 healthy: score ≥ 24 ; Level 2 at nutritional risk: score 17-23.5; Level 3 malnourished: score <17.

3.2 Data Collection and Analysis

Data were analyzed using SPSS 25.0 software. Measurement data were expressed as mean $\pm$ standard deviation and analyzed using t-tests; count data were analyzed using non-parametric tests and chi-square tests; ranked data were analyzed using rank-sum tests. $P < 0.05$ was considered statistically significant.

4. Results

During the study, no patients switched groups. One case withdrew due to disease progression requiring transfer to another ward (experimental group), and four cases were lost to follow-up after discharge (one in experimental group, three in control group). Five additional cases were recruited according to selection criteria, resulting in 45 cases per group (90 total) completing the study. The flowchart is shown in [Figure 1: see original paper]. No statistically significant differences in baseline characteristics were observed between groups ($P>0.05$), indicating comparability. Age and BMI comparisons are shown in , gender comparison in , and education level comparison in .

4.1 Cognitive Status Comparison Between Groups

The experimental group's MMSE classification levels at the fourth week of intervention and follow-up were significantly lower than baseline ($P<0.05$), with cognitive status classification at these timepoints significantly better than the control group ($P<0.05$). MMSE scores are presented in .

TABLE:4 Mini-Mental State Examination (MMSE) Scores

Timepoint	Experimental Group (N=45)	Control Group (N=45)	
Baseline	14.40 $\pm$ 5.70	14.47 $\pm$ 5.70	Week4
Follow-up	15.20 $\pm$ 5.35	17.27 $\pm$ 6.38	Week4

Note: # indicates $P<0.05$ compared with baseline; * indicates $P<0.05$ compared with control group.

4.2 Sleep Quality Comparison Between Groups

The experimental group's PSQI scores at the fourth week of intervention and follow-up were significantly lower than baseline ($P<0.05$). The control group also showed significant reduction at the fourth week of intervention ($P<0.05$). The experimental group performed significantly better than the control group at both timepoints ($P<0.05$), as shown in .

TABLE:5 Pittsburgh Sleep Quality Index (PSQI) Scores

Timepoint	Experimental Group (N=45)	Control Group (N=45)	
Baseline	12.31 $\pm$ 3.55	12.33 $\pm$ 3.48	Week4
Follow-up	8.51 $\pm$ 5.87	7.18 $\pm$ 2.68	Week4

Note: # indicates $P<0.05$ compared with baseline; * indicates $P<0.05$ compared with control group.

4.3 Activities of Daily Living Comparison Between Groups

No statistically significant differences in ADL scores were observed between the experimental and control groups during the intervention or follow-up period ($P>0.05$), as shown in .

TABLE:6 Activities of Daily Living (ADL) Scores

Timepoint	Experimental Group (N=45)	Control Group (N=45)	
Baseline	68.75 $\pm$ 30.57	69.84 $\pm$ 29.84	Week4
Follow-up	73.75 $\pm$ 26.55	71.84 $\pm$ 28.72	Week4

Note: # indicates $P < 0.05$ compared with baseline; * indicates $P < 0.05$ compared with control group.

4.4 Nutritional Status Comparison Between Groups

No statistically significant difference in nutritional status was observed between groups at the fourth week of intervention ($P > 0.05$). However, the experimental group showed significant improvement in nutritional assessment at the fourth week of follow-up ($P < 0.05$), as shown in .

TABLE:7 Mini Nutritional Assessment (MNA) Scores

Timepoint	Experimental Group (N=45)	Control Group (N=45)
Baseline	17.20 ± 4.20	17.09 ± 4.12
Week4	17.34 ± 4.12	17.97 ± 3.87
Follow-upWeek4	20.02 ± 3.46 # *	18.03 ± 3.99

Note: # indicates $P < 0.05$ compared with baseline; * indicates $P < 0.05$ compared with control group.

5. Discussion

This randomized controlled trial was conducted in a real clinical environment, representing a comprehensive collection of multiple intervention modalities with practical applicability. The study explored the clinical application effects of an integrative Chinese and Western medicine nursing pathway for dementia patients. Findings revealed that this pathway significantly improved cognitive status, sleep quality, and nutritional status in dementia patients, though no significant improvement was observed in activities of daily living. These results indicate that TCM characteristic techniques exhibit favorable effects in treating cognitive impairment, aligning with the study's initial focus.

China's historical understanding of dementia spans over 2,000 years. Shi Jing et al. [18] connected fragmented ancient medical texts centered on dementia and its core symptoms, outlining the theoretical origins of dementia prevention and treatment in China. The *Suwen • Xuanming Wugui Lun* states: "The five viscera store: the heart stores spirit, the lung stores corporeal soul, the liver stores ethereal soul, the spleen stores intention, the kidney stores will." The *Lingshu • Benshen* notes: "What manages things is called the heart; what the heart recalls is called intention; what intention stores is called will." Here, "intention" refers to attention and recollection, manifesting as orientation and concentration toward certain things, representing the beginning of mental activity or memory. As *Leijing • Zangxiang Lei* explains: "Recollection is thinking and remembering. When a thought arises and the heart is oriented but not yet determined, this is called intention," which is stored in the spleen [19]. Therefore, "intention" marks the beginning of memory, representing immediate memory, while "will" represents memory storage, representing delayed memory, stored in the kidneys. The *Huangdi Neijing* doctrine of "kidney storing will" represents ancient China's earliest academic thought on human memory function and memory decline symptoms. Additionally, the *Huangdi Neijing* proposes several pathogenesis hypotheses for "forgetfulness." First, excessive liver causing forgetfulness: *Suwen •*

Yuji Zangzang Lun states: “The Emperor asked: What diseases result from the spring pulse being excessive or insufficient? Qibo answered: Excess causes forgetfulness, dizziness, and head diseases; insufficiency causes chest pain radiating to the back, and fullness in both hypochondria.” The so-called “spring pulse is the liver, eastern wood, where all things begin to generate.” Second, disharmony of qi and blood causing forgetfulness: *Suwen • Tiaojing Lun* states: “When qi and blood are not combined, the five viscera are stable; when blood combines below and qi combines above, causing chaos, this results in forgetfulness.” Third, upper qi insufficiency (heart-lung qi deficiency) causing forgetfulness: *Lingshu • Dahuo Lun* states: “Upper qi deficiency with lower qi excess, solid intestines and stomach with empty heart and lungs, causing nutrient and defensive qi to remain below, not ascending in time, thus causing forgetfulness.” Fourth, exhausted yang qi causing forgetfulness: *Suwen • Sishi Cini Conglun* states: “Winter needling of muscles causes yang qi exhaustion, leading to forgetfulness.” The *Shanghan Zabing Lun* inherited the concept of “forgetfulness,” proposing the new theory of “long-standing blood stasis.” Fang Youzhi [20] noted in *Shanghan Lun Tiaobian*: “Forgetfulness means easily forgetting previous words and events. Will injury causes forgetfulness.” Ding Guangdi [21] stated in *Zhubing Yuanhou Lun Jiaozhu*: “Much forgetting indicates heart deficiency. The heart governs blood vessels and stores spirit. If wind evil attacks blood and qi, causing yin-yang disharmony, intermittent separation, alternating deficiency and excess, and blood-qi chaos, this leads to heart spirit deficiency and much forgetting.” The *Jingyue Quanshu* [22] states: “Dementia syndrome, in those normally without phlegm, may gradually develop dementia due to stagnation, unfulfilled desires, overthinking, suspicion, or terror and fright, leading to confused speech, inappropriate behavior, excessive sweating, or frequent sorrow. The manifestations are extremely varied and bizarre.” This elaborates that dementia is caused by phlegm binding leading to seven-emotion injury. China’s literature on dementia understanding was extensive and complex until 2009, when Wang Yongyan and Yan Shiyun edited the *Practical Internal Medicine of Traditional Chinese Medicine (Second Edition)*, which classified dementia pattern differentiation into “marrow sea insufficiency, spleen-kidney deficiency, phlegm clouding orifices, blood stasis and qi stagnation, heart-liver fire, and toxin damaging brain collaterals,” fully reflecting the pathological evolution of deficiency, phlegm, stasis, and toxin, establishing the guiding ideology for clinical dementia diagnosis and treatment [23].

Regarding pattern-based treatment, Guo Qing et al. [24] advocate analysis from the perspective of the five viscera in TCM. As mentioned above, *Suwen • Xuanming Wuqi Lun* states: “The five viscera store: the heart stores spirit, the lung stores corporeal soul, the liver stores ethereal soul, the spleen stores intention, the kidney stores will.” This demonstrates the close relationship between the five viscera and mental-consciousness activities; coordinated five viscera qi ensures normal cognitive function. TCM nursing techniques adopt a holistic perspective, addressing both body and mind with pattern-based care. Both ears are closely related to viscera, with ear acupoints representing visceral reaction points. Stimulating acupoints such as Heart, Kidney, Forehead, Subcortex,

and Shenmen can regulate viscera, tonify kidney and replenish essence, activate blood and unblock collaterals, and boost qi to strengthen the brain and enhance intelligence. Lou Qing's [25] randomized controlled trial on combined ear acupressure therapy verified its significant advantages in treating cognitive impairment. Moxibustion employs the heat of moxa fire and the pharmacological effects of mugwort leaf to stimulate acupoints, transmitting through meridians to regulate viscera and adjust qi mechanism. Su Quande [26] applied mild moxibustion at Baihui (GV20), Dazhui (GV14), Mingmen (GV4), and Zhiyang (GV9) on the basis of Western medicine control group (oral donepezil hydrochloride). After three months of intervention, results showed the treatment group's total effective rate was higher than the control group, with both groups showing significantly improved MMSE scores post-treatment, and the treatment group outperforming the control group ($P < 0.01$), demonstrating that moxibustion can effectively improve cognitive function in dementia patients. Wei Lifang [27] similarly designed a randomized controlled trial observing the clinical efficacy of thunder-fire moxibustion for early-stage senile dementia, with the experimental group receiving moxibustion at Shenque (CV8), Zhongwan (CV12), Tianshu (ST25), Guanyuan (CV4), Yongquan (KI1), and Baihui (GV20). Results indicated that adding thunder-fire moxibustion to conventional therapy could effectively slow dementia progression and improve patients' quality of life. Regarding pattern-based dietary therapy, *Suwen • Changzheng Zhengda Dalun* repeatedly mentions "food and medicine follow the same principles" and "use medicine to expel pathogen, follow with food," indicating that food can assist medicine in treating disease. Pattern-based dietary therapy is an important measure in TCM pattern-based nursing. Yu Jiajing [28] investigated the efficacy of TCM pattern-based dietary therapy combined with ear acupressure for sleep disorders in dementia patients, with results showing superior clinical efficacy compared to conventional nursing. Baduanjin exercise combines breathing, posture, and intention with smooth, continuous movements integrating motion and stillness to promote smooth qi flow. Jia Wei et al. [29] conducted a meta-analysis of eight studies on Baduanjin intervention effects for mild cognitive impairment, concluding that regular Baduanjin exercise can effectively improve overall cognitive function in mild cognitive impairment patients, with effects becoming apparent after two months of practice. These research findings are consistent with the direction of our study results.

Currently, numerous randomized controlled trials have investigated the clinical effects of TCM techniques on dementia. These studies fall into two categories: single-therapy interventions targeting specific symptoms, and comprehensive interventions using 2-3 therapies for multiple symptoms, with the latter being more comprehensive. This study, conducted in a real clinical environment, integrated multiple TCM characteristic nursing techniques including pattern-based dietary therapy, qi-intersection moxibustion, ear acupoint seed embedding, foot moxibustion, emotional regulation, and five-element music therapy. This approach offers several advantages: (1) **Comprehensive treatment:** Different TCM interventions can simultaneously affect patients from multiple angles, com-

prehensively regulating yin-yang balance and qi-blood circulation to improve overall physical and mental status; (2) **Individualized treatment plans:** Integrated TCM interventions can develop personalized treatment plans based on patients' specific symptoms and constitutional characteristics, enhancing treatment specificity and effectiveness; (3) **Multi-pathway rehabilitation promotion:** Different TCM interventions may influence various bodily aspects through dietary regulation, exercise, and moxibustion, promoting recovery through multiple pathways; (4) **Reduced medication side effects:** TCM treatment primarily uses natural herbs or non-invasive therapies, potentially reducing side effects compared to certain medications; (5) **Promotion of overall health:** TCM emphasizes holistic balance of body and mind, potentially improving sleep quality and emotional stability, positively impacting dementia patients' quality of life; (6) **Potential persistent effects:** Integrated TCM interventions may continue producing positive effects after treatment completion, helping maintain long-term recovery.

Study Limitations: Despite positive findings, this study has several limitations and potential biases: (1) **Single-center sampling:** Single-center studies reduce external validity and may lead to selective samples affecting representativeness. Additionally, results may be influenced by local climate, environment, and sociocultural factors in Guangzhou. (2) **Lack of long-term effect evaluation:** The study primarily focused on short-term intervention effects without addressing long-term impacts. As dementia is typically a chronic disease, understanding long-term intervention effects is crucial for comprehensive evaluation of the integrative nursing pathway's efficacy. While this study provides meaningful results, larger-scale, longer-duration randomized controlled trials are needed to further validate these findings and address potential limitations.

Future Research Directions: Further refinement and exploration of how different elements of the integrative nursing pathway affect patients are needed, including investigating the effects of specific TCM techniques and applying this pathway to other cognitive disease patients. Long-term follow-up studies are recommended to understand the long-term effects of integrative Chinese and Western medicine nursing pathways on dementia patients.

In conclusion, the integrative Chinese and Western medicine nursing pathway combines traditional Chinese medicine therapies with modern Western medicine treatments, providing patients with more comprehensive and diverse medical care. This approach is comprehensive and can better meet patients' diverse needs across physiological, psychological, and social dimensions, potentially improving disease treatment and rehabilitation outcomes. The pathway's potential social value lies not only in improving patients' quality of life and cognitive status but also in avoiding waste of medical resources. By comprehensively utilizing Chinese and Western medicine therapies, unnecessary medical expenses and repetitive examinations can be reduced, potentially providing economic and resource advantages for the healthcare system. Furthermore, this integrative nursing pathway can offer new approaches for chronic disease management

and elderly care, contributing to improving overall societal health levels and supporting the “Healthy China” strategy.

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Note: Figure translations are in progress. See original paper for figures.

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